



DEPARTMENT OF TRANSPORTATION  
HAZARDOUS MATERIALS REGULATIONS BOARD  
WASHINGTON, D.C. 20590

Hazardous Materials Regulations  
Board

[ 49 CFR Parts 173, 178 ]

[Docket No. HM-40; Notice No. 70-1]

TRANSPORTATION OF HAZARDOUS  
MATERIALS

MC 330 and MC 331 Cargo Tanks in  
Chlorine Service

The Hazardous Materials Regulations Board is considering amending the Department's Hazardous Materials Regulations relating to (1) the frequency of testing angle valves on chlorine cargo tanks, (2) The Chlorine Institute's drawings pertinent to excess flow valves and safety relief valves, and (3) insulation material on chlorine cargo tanks.

Interested persons are invited to give their views on this proposal. Communications should identify the docket number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, D.C. 20590. Communications received on or before April 7, 1970, will be considered before final action is taken on the proposal. All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, both before and after the closing date for comments.

These proposals are based upon a petition for rule making and upon satisfactory experience gained under the terms of several special permits. Section 173.33(g)(10) requires angle valves on chlorine cargo tanks to be tested at not less than 225 p.s.i.g. using dry air or inert gas, before installation of such valves on the cargo tank, and such tests must be made before each loading. Under the provisions of special permits the test frequency has been extended to once every five loadings or once a week, whichever comes first. No adverse reports have been received on shipments made under these provisions and therefore it is proposed to extend the test frequency accordingly.

Authorizing the use of self-extinguishing polyurethane foam on cargo tanks would provide an additional type of insulation material that has shown to be as efficient as corkboard. This material has been authorized for use under the terms of several special permits with no adverse experience being reported.

Editorial changes have been made to drawings applicable to chlorine tank angle valves currently cited in the regulations. Reference to the latest revision of the drawings reflects those changes. Minor revisions concerning materials of construction in certain safety relief valve parts are reflected in the Chlorine Institute's new drawing H51970. The new drawing is proposed to replace Drawing D13105E.

In consideration of the foregoing it is proposed to amend 49 CFR Parts 173 and 178 as follows:

I. Part 173 would be amended as follows:

(A) In § 173.33 subparagraphs (g)(10), (i)(4), and paragraph (j) would be amended to read as follows:

§ 173.33 Cargo tank use authorization.

(g) \* \* \*

(10) Chlorine cargo tank angle valves must be tested to be leak free at not less than 225 p.s.i.g. using dry air or inert gas before installation. The angle valves must also be tested as above once every five loadings or once a week whichever occurs first. At each loading, tanks must be inspected and the angle valves and gasketed joints must be examined and tested at a pressure of not less than 50 p.s.i.g. to determine that they are not leaking and are in proper condition for transportation.

(i) \* \* \*

(4) Angle valves and excess flow valves on chlorine tank motor vehicles must conform to the standards of The Chlorine Institute, Inc. Angle valves must conform with Dwg. 104-4 dated May 5, 1958. Excess flow valves conforming with Dwg. 101-4 dated May 16, 1969, must be installed under each liquid angle valve; and the excess-flow valves conforming with Dwg. 106-3 dated May 16, 1969, must be installed under each gas angle valve.

(j) Each tank for chlorine, carbon dioxide, and nitrous oxide must be insulated with a suitable insulation material of such thickness that the overall thermal conductance is not more than 0.08 B.t.u. per square foot per degree F. differential in temperature per hour. The conductance must be determined at 60° F. Insulation material used on tanks for nitrous oxide must be noncombustible. Insulation material used on tanks for chlorine must be corkboard or self-extinguishing polyurethane foam with minimum thickness of 4 inches.

(B) In § 173.315 subparagraph (i)(11) would be amended to read as follows:

§ 173.315 Compressed gases in cargo tanks and portable tank containers.

(i) \* \* \*

(11) Safety relief valve on chlorine tank motor vehicles must conform with the standard of The Chlorine Institute, Inc., Type 1½ JQ225 Dwg. H51970 dated October 7, 1968.

II. Part 178 would be amended as follows:

(A) In § 178.337-1 paragraph (e) would be amended; in § 178.337-8 entire paragraph (b) would be amended; in § 178.337-9 subparagraph (a)(1) would be amended; in § 178.337-11 subparagraph (a)(4) would be amended to read as follows:

§ 178.337 Specification MC 331; cargo tanks constructed of steel, primarily for transportation of compressed gases as defined in the Compressed Gas Section.

§ 178.337-1 General requirements.

(e) *Insulation for carbon dioxide, chlorine, and nitrous oxide tanks.* Each tank for chlorine, carbon dioxide, and nitrous oxide must be insulated with a suitable insulation material of such thickness that the overall thermal conductance at 60° F. is not more than 0.08 B.t.u. per square foot per degree F. differential in temperature per hour. Insulation material on tanks for nitrous oxide must be noncombustible.

Insulation material on tanks for chlorine must be corkboard or self-extinguishing polyurethane foam with minimum thickness of 4 inches.

§ 178.337-8 Outlets.

(b) *Chlorine tank valves.* Chlorine tank angle valves must conform with Chlorine Institute Dwg. 104-4, dated May 5, 1958. The angle valves must be tested to be leak free at not less than 225 p.s.i.g. using dry air or inert gas before installation. Regarding chlorine tank outlets, see also § 178.337-1(c)(2).

§ 178.337-9 Safety relief devices, valves and connections.

(a) \* \* \*

(1) Each tank must be provided with one or more safety relief devices which, unless otherwise specified, must be safety

relief valves of the spring-loaded type and they must be arranged to discharge upward and unobstructed to the outside of the protective housing in such a manner as to prevent any impingement of escaping gas upon the tank. For chlorine tanks the protective housing must be as required in § 178.337-10(c) and the safety relief valve must conform with the standard of the Chlorine Institute, Inc., Type 1½ JQ225 Dwg. H51970, dated October 7, 1968.

§ 178.337-11 Emergency discharge control.

(a) \* \* \*

(4) For chlorine tanks, an excess-flow valve conforming with Chlorine Institute Dwg. 101-4 dated May 16, 1969, must be installed under each liquid angle valve; and an excess-flow valve conforming with Dwg. 106-3, dated May 16, 1969, must be installed under each gas angle valve.

This proposal is made under the authority of sections 831-835 of title 18, United States Code, and section 9 of the Department of Transportation Act (49 U.S.C. 1657).

Issued in Washington, D.C., on January 23, 1970.

J. B. McCARTY, Jr.,  
Captain, U.S. Coast Guard, by  
direction of Commandant,  
U.S. Coast Guard.

F. C. TURNER,  
Administrator,  
Federal Highway Administration.

[F.R. Doc. 70-1196; Filed, Jan. 29, 1970;  
8:47 a.m.]